the image received from the measurement apparatus into a plurality of sub blocks, calculate representative values of the plurality of sub blocks, calculate calibration values of the plurality of sub blocks based on a target value set based on the calculated representative values and the representative values of the plurality of sub blocks, and transmit the calibration values to the display panel apparatus.

[0024] According to another aspect, a method of controlling an electronic apparatus for calibrating a pixel value of a display panel constituting a display panel apparatus, includes dividing an image acquired by capturing the display panel into a plurality of sub blocks, calculating representative values of the plurality of sub blocks, calculating calibration values of the plurality of sub blocks based on a target value set based on the calculated representative value and the representative values of the plurality of sub blocks, and transmitting the calculated calibration values to the display panel apparatus.

[0025] The calculating of the representative values may include calculating an average value of pieces of data indicating brightness and color of each of a plurality of pixels constituting the sub block as a representative value of the sub block.

[0026] The pieces of data indicating the brightness and color of each of the plurality of pixels may be color coordinates x, y and luminance Y in a CIE xy Y color space indicating color and brightness of a pixel.

[0027] The calculating of the calibration values may include setting an average value of a plurality of representative values respectively corresponding to the plurality of sub blocks as the target value.

[0028] The dividing of the plurality of sub blocks may include determining sizes of the plurality of sub blocks based on a resolution of the display panel apparatus or a value input by a user.

[0029] The calculating of the calibration values may include calibrating pixel values respectively constituting the plurality of sub blocks based on the target value and the representative values of the plurality of sub blocks. The transmitting may include transmitting the calibrated pixel values to the display panel apparatus.

[0030] The calculating of the calibration values may include calculating pixel values of the plurality of sub blocks to be calibrated, based on the target value and the representative values of the plurality of sub blocks. The transmitting may include transmitting the calculated pixel values to the display panel apparatus.

[0031] The image acquired by capturing the display panel may be an image which is captured and then whose brightness and color are measured by a colorimeter.

[0032] The image acquired by capturing the display panel may be an image that is captured by a camera installed inside or outside the electronic apparatus.

[0033] According to various exemplary embodiments as described above, a calibration value of each sub area may be calculated and then transmitted to a display panel apparatus. Therefore, a time taken for calibrating the display panel apparatus may be reduced, and a calibration performance may be optimized.

[0034] According to another aspect a non-transitory computer readable medium storing a method of controlling an electronic apparatus for calibrating a pixel value of a display panel constituting a display panel apparatus is provided, the method including dividing an image acquired by capturing the display panel into a plurality of sub blocks, calculating representative values of the plurality of sub blocks, calculating calibration values of the plurality of sub blocks based on a target value set based on calculated representative values and representative values of the plurality of sub blocks and transmitting calculated calibration values to the display panel apparatus.

[0035] According to another aspect a calibration system is provided, including a display panel apparatus, a measurement apparatus configured to capture a preset image displayed on a display panel of the display panel apparatus and measure brightness and color corresponding to the image, and a computer to divide the image received from the measurement apparatus into a plurality of sub blocks, calculate representative values of the plurality of sub blocks, calculate calibration values of the plurality of sub blocks based on a target value set based on calculated representative values and representative values of the plurality of sub blocks, and transmit the calibration values to the display panel apparatus.

[0036] According to another aspect a method of calibrating a display panel is provided, the method including dividing an image of the display panel into blocks, calculating values representing each block as calculated representation values, calculating calibration values of the blocks using a target value set based on the calculated representative values and representative values of the blocks and transmitting the calibration values to the display panel.

[0037] According to another aspect a method of calibrating a display includes dividing pixels of the display panel into groups, determining a calibration value for each group of pixels, and calibrating each group of pixels of the display panel using a corresponding calibration value.

[0038] Additional and/or other aspects and advantages of the embodiments will be set forth in part in the description which follows and, in part, will be obvious from the description, or may be learned by practice thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

[0039] The above and/or other aspects of the embodiments will be more apparent by describing certain exemplary embodiments with reference to the accompanying drawings, in which:

[0040] FIG. **1** illustrates a configuration of a display panel apparatus calibration system according to an exemplary embodiment;

[0041] FIG. **2** is a block diagram of a configuration of an electronic apparatus according to an exemplary embodiment;

[0042] FIGS. **3**A and **3**B are block diagrams of a detailed configuration of an electronic apparatus as shown in FIG. **2**, according to an exemplary embodiment;

[0043] FIG. **4** illustrates a method of dividing a plurality of sub blocks, according to an exemplary embodiment;

[0044] FIGS. **5**A through **5**E illustrate a method of calibrating a display panel apparatus, according to an exemplary embodiment;

[0045] FIG. **6** is a flowchart of a method of calibrating a display panel apparatus of a display panel apparatus calibration system, according to an exemplary embodiment;

[0046] FIG. **7** is a sequence diagram illustrating an operation of a display panel apparatus calibration system, according to an exemplary embodiment; and